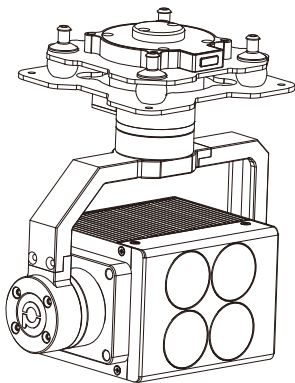# Viewpro

D3535 2-axis stabilized gimbal searchlight
User Manual

| User Manual | 使用说明 |

Viewport Version

快拆版

For more details please scan the QR code
or visit our website:
www.viewprotech.com

Disclaimer and Warning

Congratulations on purchasing your new Viewpro product. Please read this entire document carefully. Failure to read or follow instructions and warnings in this document may result in damage to your Viewpro product. Disassemble the gimbal camera by user is not permitted, as which may cause the camera does not work normally.

Viewpro accepts no liability for damage, injury or any legal responsibility incurred directly or indirectly from the use of this project. The user shall observe safe and lawful practices including, but no limited to, those set forth in the manual.

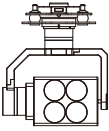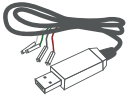**Legends**   ⊘   ⚠

Warning   Important Note
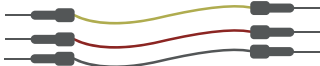
1.Product Introduction

1.1 Introduction

D3535 is a high-precision 2-axis gimbal integrated with a 4000lm luminous flux searchlight. It supports yaw/pitch control, home position, gimbal speed adjustment and light on/off. The 2 axis gimbal can achieve stabilization in yaw and pitch, the integrated design of damping system and gimbal can greatly reduce mechanical vibration.

It has an operating range of up to 150m and widely used at night or in utter poor light environment for users in night surveillance, emergency response/search and rescue, fire fighting……

1.2 In the Box

Viewport Version			
searchlight D3535 x 1 pc		USB to TTL Cable x 1 pc	
Copper Cylinder x 4 pcs		M3 Screw x 8 pcs	
Power Cable x 1 pc			
PWM Control Cable x 1 pc			
TTL / S.BUS Control Cable x 1 pc			
TTL Connect Cable x 3 pcs			

2. Installation Instruction

2.1 Overview

(Viewport Version)
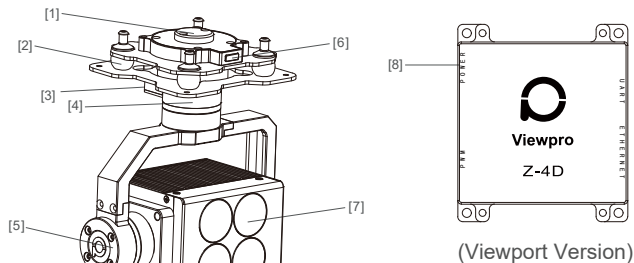
[1] Viewport Hat Part

[2] Damping ball

[3] Power interface for searchlight (17V)

[4] Yaw axis motor

[5] Pitch axis motor

[6] Viewport unlock button

[7] Searchlight

[8] 3-6S power interface for gimbal

⚠
- Please ensure that there isn't any obstacle while the motor rotating.
- Please remove the obstacle immediately if gimbal camera is blocked during rotation.

3.

2.2.2 Control Box Printing (Viewport Version)

HDMI

Front Side

TX+
TX-
RX+
RX-

TXD
RXD
GND
TTX
S.BUS
5V
GND

Left Side

GND

3S-6S

CVBS
GND
OUT
MULTI
PIC / REC
FOCUS / PPM
ZOOM
MODE
YAW
PITCH
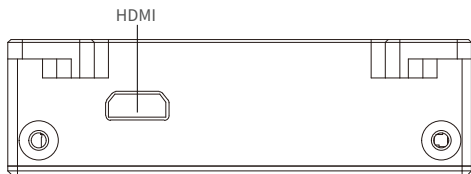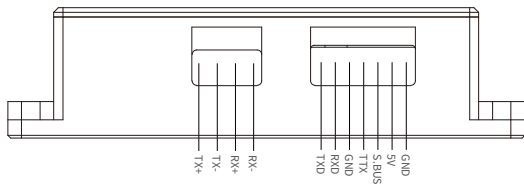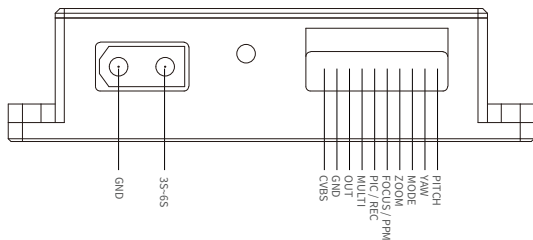
Right Side

2.3 Device Dimensions (Viewport Version)

Unit: mm

4* Ø3.1

91.0
78.0

78.0
91.0

43.2
34.3

46.2

51.2
56.2

48.4

Control Box

151.4

129.5

81.5

70.0
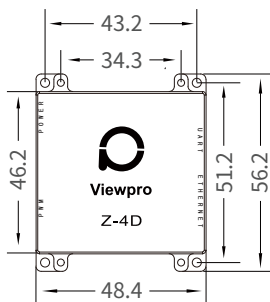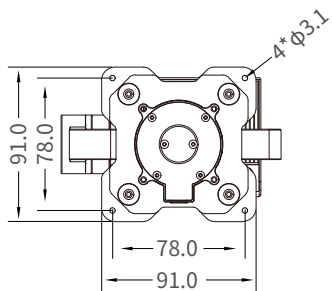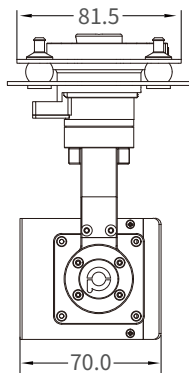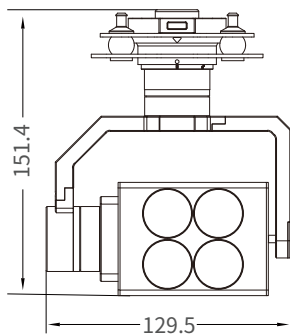
2.5 Viewport Release Instruction
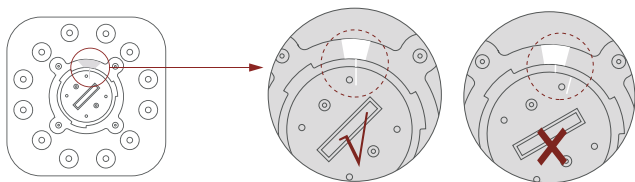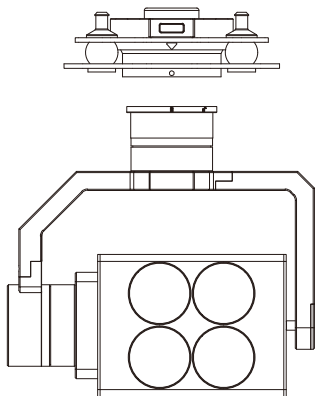
1. Make sure the two white stripes indicated in above picture are aligned with each other. (If the stripes are not aligned to each other, please pinch the connector part and turn it to left manually)
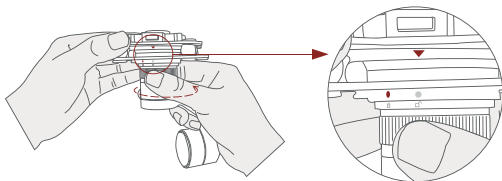
2. Align the white dot (unlock icon) to the red triangle (below unlock button), push the gimbal into the Viewport completely and then rotate the gimbal camera anticlockwise.
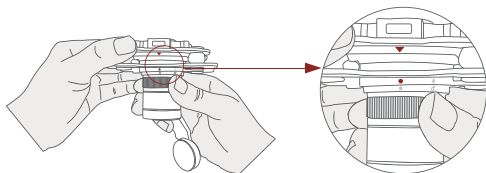
3. When you hear "click" sound (when red dot is aligned to the red triangle) means the gimbal camera and Viewport has been locked.
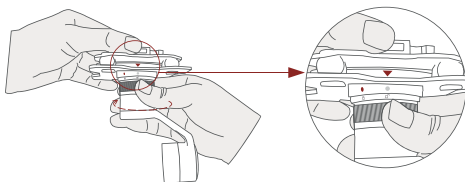
4. To unlock the Viewport, you need to press on unlock button and rotate the gimbal camera clockwise till the white dot align to the red triangle. Then pull the gimbal out from the Viewport.

7.

3. Signal Control

3.1 PWM Control

Control the gimbal camera functions by the multiplex pulse width modulation signal outputted by PWM channel of the remote control receiver. The camera needs up to 6 control channels of PWM (to expand tracking function use up to 7 PWM channels). You can choose needed functions according to actual usage to reduce the required number of PWM channels.

3.1.1 PWM Connection Diagram (Connect pitch channel as example)

Remote Controller

Receiver
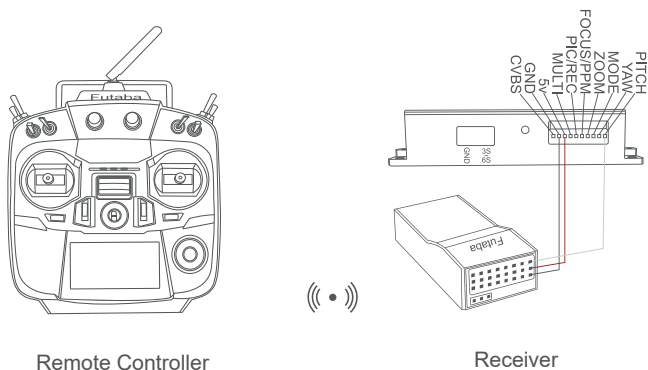
Connection Diagram
(Viewport Version)

3.1.2 PWM Control Operation Instruction

1) Pitch (PWM Pitch channel in to control Pitch. Joystick, rotary knob or 3-gear switch on remote control are optional. 3-gear switch as example.)

Position 1	Position 2	Position 3
Low Gear Pitch Up	Middle Gear Pitch Stop	High Gear Pitch Down

2) Yaw (PWM Yaw channel in to control Yaw. Joystick, rotary knob or 3-gear switch on remote control are optional. 3-gear switch as example.)

Position 1	Position 2	Position 3
Low Gear Yaw Left	Middle Gear Yaw Stop	High Gear Yaw Right

3) Mode (PWM Mode channel in to adjust speed control/one key to Home position etc functions. Rotary knob or 3-gear switch on remote control are optional. 3-gear switch as example.)

9.

Position 1	Position 2	Position 3
Low Gear	Middle Gear	High Gear

Position 1: Low speed mode, control pitch / yaw with this mode at lowest speed

Position 2: Middle speed mode, control pitch / yaw with this mode at middle speed

Position 3: High speed mode, control pitch / yaw with this mode at highest speed

(If it is controlled by rotary knob, the speed will change according to switch position)

Function of continuous switching:

3.1) Operate 1 time continuously and quickly, from position 2 - 3 - 2, to Home position.

3.2) Operate 2 times continuously and quickly, from position 2 - 3 - 2 - 3 - 2, the camera lens looks vertically down.

3.3) Operate 3 times continuously and quickly, from position 2 - 3 - 2 - 3 - 2 - 3 - 2, to disable Follow Yaw Mode (gimbal yaw not follows by frame)

3.4) Operate 4 times continuously and quickly, from position 2 - 3 - 2 - 3 - 2 - 3 - 2 - 3 - 2, to enable Follow Yaw Mode (gimbal yaw follows by frame)

4) Zoom (PWM Zoom channel in to control Zoom, not functional for this channel)

5) Focus (PWM focus channel in to control manual focus, not functional for this channel)

6) Pic/Rec (PWM Pic/Rec channel in to control take picture and record, not functional for this channel)

| Position 1 | Position 2 | Position 3 |
| Low Gear | Middle Gear | High Gear |

7) Multi: Standby channel, the corresponding functions as below

| Position 1 | Position 2 | Position 3 |
| Low Gear | Middle Gear | High Gear |

Switch from Position 2 to 1: Turn on/off light

3.2 Serial Port / TTL Control

TTL communication requirements: TTL signal is 3.3V, baud rate: 115200, data bit 8, stop bit 1, no parity, HEX send and receive.

11.

Connection Diagram (PC - USB to TTL Cable- Gimbal Camera as example):

Gimbal Camera　　**Cable**

TX ⟷ RX (White)

RX ⟷ TX (Green)

GND ⟷ GND (Black)
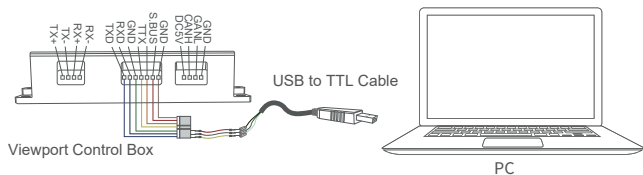
Connection Diagram Viewport Version

Diagram of USB to TTL Cable:

Connect the camera to the upper computer by USB to TTL cable (Adopt connection method of TX to RX, RX to TX, GNG to GND at Dupont ends of the provided USB to TTL cable, connect to the specified TTL of the gimbal, and the USB end of the cable connect to computer).

Install Viewlink control software to test the functions directly. Users may choose to develop their own software, please contact technical support for TTL control protocol file.

ViewLink is a user interface developed by Viewpro for Viewpro gimbal cameras, you can download it from Viewpro website (www.viewpro-tech.com) or ask distributors for installation package.

⊘ • Connect serial port of gimbal to pins, DO NOT connect with power supply.

⚠ • The default baud rate of serial port is 115200, which can be changed according to the docking equipment.

3.3 S.BUS Control

Control the gimbal camera functions by one combining signals. Connect the external S.Bus to S.Bus port on the control box, and the external S.bus signal GND connect to the GND interface of the control box.

Wiring Diagram (Take Futaba remote control for example):

Remote Control

Receiver
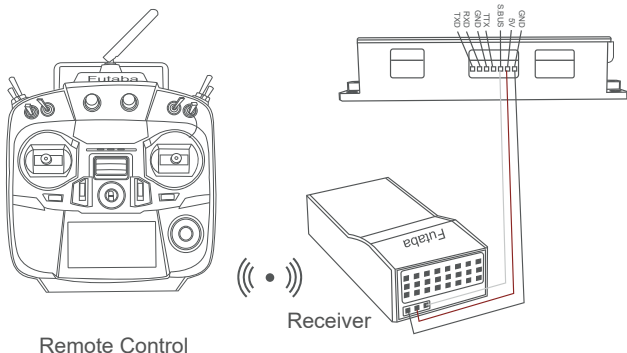
Wiring Diagram Viewport Version

S.Bus control mode: default S.Bus signal channel 7-13 to control gimbal camera functions (the function of channel is consistent with corresponding channel in PWM function description)

Channel 7: Yaw Control

Channel 8: Pitch Control

Channel 9: Mode Control

Channel 10: Zoom Control

Channel 11: Focus Control

Channel 12: Pic/Rec Control

Channel 13: Multi Backup

⚠ User can set the channels by setting serial command according to the actual requirement. The S.Bus channel position can be arranged in any sequence within channel 1-15 to connect with the flight controller or remote control.

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4. Specification

Hardware Parameter	
Gimble Working voltage	3S~6S
Searchlight Working voltage	17V
Output voltage	5V (connect with PWM)
Idle current	3000mA@17V

Working environment temp	-20℃ ~ +60℃
Control method	PWM / TTL / S.BUS
Gimbal Spec	
Mechanical Range	Pitch: -30°～110°, Yaw: ±300°
Controllable Range	Pitch: -25°～90°, Yaw: ±290°
Vibration angle	Pitch: ±0.02°, Yaw: ±0.02°
One-key to center	√
Searchlight Spec	
Luminous Flux	4000 lm
Color Temperature CCT	6940K
Color Render Index （Ra/CRI）	72.3
FOV	8°
Light range	150m
Area	346㎡ @150m flight height
Power	38W
Packing Information	
N.W.	785g
Product meas.	129.5*70*151.4mm

15.

5. FAQ

1. What is the optimal working voltage of D3535 searchlight？
A: 17V voltage, the light is brightest.

2. Does the searchlight have two-way power supplies?
A: Yes, one is for gimbal, working voltage is 3s~6s; The others is for searchlight, working voltage is 17V.